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| Collana                 | Programming and Software Engineering ; ; 11812                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Disciplina              | 005.30287                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Soggetti                | Software engineering<br>Computer organization<br>Computer logic<br>Artificial intelligence<br>Computers<br>Software Engineering<br>Computer Systems Organization and Communication Networks<br>Logics and Meanings of Programs<br>Artificial Intelligence<br>Computing Milieux                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| Nota di bibliografia    | Includes bibliographical references and index.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Nota di contenuto       | Test and Artificial Intelligence -- Learning a Behavior Model of Hybrid Systems through Combining Model-Based Testing and Machine Learning -- Regular expression learning with evolutionary testing and repair -- Testing Chatbots using Metamorphic Relations -- Generating Biased Dataset for Metamorphic Testing of Machine Learning Programs -- Test Case Generation -- Combining Model Renement and Test Generation for Conformance Testing of the IEEE PHD Protocol using Abstract State Machines -- Evaluating the complexity of deriving adaptive homing, synchronizing and distinguishing sequences for nondeterministic FSMs -- Multiple Mutation Testing for Timed Finite State Machine With Timed Guards and Timeouts -- Empirical |

Approaches -- An Empirical Evaluation of Search Algorithms for App Testing -- Performance comparison of two search-based testing strategies for ADAS System Validation -- Testing and Verification Techniques -- Bounded Exhaustive Testing with Certified and Optimized Data Enumeration Programs -- A Mechanised Proof of an Adaptive State Counting Algorithm -- A Model Checking based Approach for Detecting SDN Races -- Security and Performance Testing -- Towards an Efficient Performance Testing through Dynamic Workload Adaptation -- DYNAMOJM: A JMeter Tool for Performance Testing using Dynamic Workload Adaptation -- Attack tolerance for service-based applications in the Cloud -- Industrial Applications -- Automatic generation of test oracles from component based software architectures -- Industrial IoT Security Monitoring and Test on Fed4Fire+ Platforms -- TestDCat: Catalog of Test Debt Subtypes and Management Activities.

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## Sommario/riassunto

This book constitutes the refereed proceedings of the 31st IFIP WG 6.1 International Conference on Testing Software and Systems, ICTSS 2019, held in Paris, France, in October 2019. The 14 regular papers and 3 short papers presented were carefully reviewed and selected from 30 submissions. This year also included an additional industrial paper. ICTSS is a series of international conferences addressing the conceptual, theoretic, and practical problems of testing software systems, including communication protocols, services, distributed platforms, middleware, embedded and cyber-physical systems, and security infrastructures.

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